STN

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(FILE 'HOME' ENTERED AT 09:01:00 ON 30 SEP 2005)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE,
AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS,
BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB,
CROPU, DDFB, DDFU, DGENE, DISSABS, ...' ENTERED AT 09:01:10 ON 30 SEP 2005
           SEA (FLUORESCENT (3N) DYE ) (P) (DSRNA OR (DOUBLE (A) STRANDED
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            0*  FILE ADISNEWS
            0*  FILE ANTE
            0*  FILE AQUALINE
            2   FILE AQUASCI
            0*  FILE BIOCOMMERCE
            1*  FILE BIOENG
            7   FILE BIOSIS
           51*  FILE BIOTECHABS
           51*  FILE BIOTECHDS
            5*  FILE BIOTECHNO
           17   FILE CAPLUS
            1*  FILE CEABA-VTB
            0*  FILE CIN
            1   FILE DDFU
           66   FILE DGENE
            1   FILE DISSABS
            1   FILE DRUGU
            1   FILE EMBASE
            5*  FILE ESBIOBASE
            3*  FILE FEDRIP
            0*  FILE FOMAD
            0*  FILE FOREGE
            0*  FILE FROSTI
            0*  FILE FSTA
           50   FILE IFIPAT
            0*  FILE KOSMET
            2   FILE LIFESCI
            5   FILE MEDLINE
            0*  FILE NTIS
            0*  FILE NUTRACEUT
            5*  FILE PASCAL
            0*  FILE PHARMAML
            2   FILE PROMT
            2   FILE SCISEARCH
            3   FILE TOXCENTER
          184   FILE USPATFULL
           13   FILE USPAT2
            0*  FILE WATER
           34   FILE WPIDS
           34   FILE WPINDEX
L1           QUE (FLUORESCENT (3N) DYE ) (P) (DSRNA OR (DOUBLE (A) STRANDED
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FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHNO, SCISEARCH' ENTERED AT 09:07:24
ON 30 SEP 2005
L2          36 S L1
L3          26 DUP REM L2 (10 DUPLICATES REMOVED)
L4          15 S L3 AND PY<2002
L5           1 S (FLUORESCENT (3N) DYE ) (S) (BIND### OR ATTACH#####) (S)  (DS
L6           7 S (FLUORESCENT (3N) DYE ) (S) (BIND### OR ATTACH#####) (S)  (DS
L7           8 S ((CYANIN! OR  FLUORESCENT) (3N) DYE ) (S) (BIND### OR ATTACH#
L8           8 S ((CYANIN? OR  FLUORESCENT) (3N) DYE ) (S) (BIND### OR ATTACH#
L9           7 DUP REM L8 (1 DUPLICATE REMOVED)
L10          5 S (CYANIN? (3N) DYE ) (S)  (DSRNA OR (DOUBLE (A) STRANDED OR DO
L11          5 DUP REM L10 (0 DUPLICATES REMOVED)
L12          4 S L11 NOT L9
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L4 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:501215 CAPLUS
DN 129:145614
TI Fluorescent intercalative dye assay method for nucleic acid sequences
IN Ishiguro, Takahiko; Saitoh, Juichi
PA Tosoh Corp., Japan
SO Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 855447	A2	19980729	EP 1998-300481	19980123 <--
	EP 855447	A3	19990414		
	EP 855447	B1	20040331		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 10201476	A2	19980804	JP 1997-10996	19970124 <--
	US 6063572	A	20000516	US 1998-12573	19980123 <--
	EP 1400598	A1	20040324	EP 2003-27996	19980123
	R: DE, FR, GB, IT				
PRAI	JP 1997-10996	A	19970124		
	EP 1998-300481	A3	19980123		

AB A method of assay of a specific nucleic acid anticipated in a sample, which comprises: (1) a DNA-producing step which involves production of a **double-stranded** DNA having a promoter sequence for an **RNA** polymerase and the nucleic sequence of the specific nucleic acid (the specific nucleic acid sequence) downstream from the promoter sequence by using the specific nucleic acid in the sample as a template, and (2) an **RNA**-producing and measuring step which involves production of a single-stranded **RNA** having the specific nucleic acid sequence by the **RNA** polymerase and measurement of the single-stranded **RNA**, and (3) wherein the **RNA**-producing and measuring step is initiated by adding at least the **RNA** polymerase, ribonucleoside triphosphates and a probe which is labeled with a **fluorescent** intercalative **dye** and is complementary to the single-stranded **RNA** to the reaction solution after the DNA producing step, involves measurement of the fluorescence intensity of the reaction solution, and is carried out at a constant temperature, and does not involve denaturing and annealing procedure for hybridization or separation of the probe which has not hybridized with the single-stranded **RNA** produced. The method is exemplified by anal. of recombinant RNA from human cytomegalovirus. The promoter primer used is designed to have at least the promoter sequence for RNA polymerase. A **fluorescent** intercalative **dye** such as YO-271 is linked to the oligonucleotide by a covalent bond.

L4 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:102021 CAPLUS
DN 116:102021
TI Flow cytometric methods for RNA content analysis
AU Darzynkiewicz, Zbigniew
CS Cancer Res. Inst., New York Med. Coll., Valhalla, NY, 10595, USA
SO Methods (San Diego, CA, United States) (**1991**), 2(3), 200-6
CODEN: MTHDE9; ISSN: 1046-2023
DT Journal
LA English
AB Anal. of the RNA content of individual cells provides information on their translational capacity that varies with cell differentiation and proliferation. In fact, because the rates of cell growth and proliferation are coupled, cellular or nuclear (nucleolar) RNA content indirectly serves as a marker of cell proliferation. The most common use of RNA measurement is in the discrimination of cycling from noncycling cells; RNA content is also a prognostic parameter in many malignancies. Two flow cytometric methods that simultaneously measure cellular RNA and DNA were developed. The 1st method is based on the use of the

metachromatic dye acridine orange, which can differentially stain these nucleic acids. This method measures total cellular or nuclear RNA content and can be used in flow cytometers that have a single source of illumination. The 2nd method uses a combination of **fluorescent dyes**, pyronin Y and Hoechst 33342. Only **double-stranded RNA** fluoresces when stained with pyronin Y. Simultaneous measurement of DNA and RNA utilizing Hoechst 33342 and pyronin Y requires the use of instruments having double excitation sources. Both methods are very sensitive to variations in dye concentration

L4 ANSWER 14 OF 15 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
AN 1997:27248997 BIOTECHNO
TI Measurement of nucleic acid concentrations using the DyNA Quant(TM) and the GeneQuant(TM)
AU Teare J.M.; Islam R.; Flanagan R.; Gallagher S.; Davies M.G.; Grabau C.
CS J.M. Teare, Hoefer Pharmacia Biotech, 654 Minnesota Street, San Francisco, CA 94107, United States.
E-mail: john.teare@ussfo.pharmacia.se
SO BioTechniques, (**1997**), 22/6 (1170-1174), 14 reference(s)
CODEN: BTNQDO ISSN: 0736-6205
DT Journal; Article
CY United States
LA English
SL English
AB Molecular biology is now a routine tool in almost all biological research fields. With the exponential growth in the number of molecular biological techniques. There is a recognizable need for sensitive, accurate and precise quantitation of nucleic acids. We present here two complementary instruments designed for the quantitation of nucleic acids, the GeneQuant(TM) II and the DyNA Quant(TM) 200 Fluorometer. The GeneQuant II can rapidly determine the UV absorbance of a solution and display the calculated DNA, **RNA** or protein concentration. In addition, the GeneQuant can display calculated melting temperatures for a given DNA oligonucleotide base sequence, a useful feature for primer design. The DyNA Quant 200 quantitates DNA on the basis of the **fluorescent** Hoechst 33258 **dye/double-stranded** (ds)DNA assay. Upon binding to dsDNA, the spectral properties of the dye change such that it becomes highly fluorescent at 460 nm when excited at 365 nm. The assay has proven to be a specific and sensitive alternative method for DNA quantitation, particularly for unpurified DNA samples. Together, the GeneQuant II and the DyNA Quant 200 are a cost-effective and convenient solution to the routine protein and nucleic acid quantification needs of the molecular biologist.

L4 ANSWER 15 OF 15 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
AN 1993:23087012 BIOTECHNO
TI Fluorometric assay using dimeric dyes for double- and single-stranded DNA and RNA with picogram sensitivity
AU Rye H.S.; Dabora J.M.; Quesada M.A.; Mathies R.A.; Glazer A.N.
CS MCB:Stanley/Donner ASU, University of California,Berkeley, CA 94720, United States.
SO Analytical Biochemistry, (**1993**), 208/1 (144-150)
CODEN: ANBCA2 ISSN: 0003-2697
DT Journal; Article
CY United States
LA English
SL English
AB Thiazole orange homodimer (TOTO; 1,1'-(4,4,7,7-tetramethyl-4,7-diazaundecamethylene)-bis-4-¢3-methyl-2, 3-dihydro-(benzo-1,3-thiazole)-2-methylidene!-quinolinium tetraiodide) and oxazole yellow homodimer (YOYO; an analogue of TOTO with a benzo-1,3-oxazole in place of the benzo-1,3-thiazole) bind with very high affinity to nucleic acids with more than a 1000-fold fluorescence enhancement upon binding. A linear dependence of fluorescence intensity on DNA concentration over a range from 0.5 to 100 ng/ml in the presence of 2 x 10.sup.-.sup.7 M TOTO or YOYO in 4 mM Tris-acetate/0.1 mM EDTA/50 mM NaCl, pH 8.2 allows sensitive quantitation of **double-stranded** DNA in a

conventional fluorometer. With nucleic acid-dye mixtures in an array of 25-μl wells in a block of low autofluorescence plastic and detection with a laser-excited confocal fluorescence scanner, as little as 20 pg of **double-stranded** DNA can be detected per well. The array scanning method is rapid, has high throughput, and requires small amounts of sample. It also allows quantitation of single-stranded DNA and **RNA**.

L9 ANSWER 5 OF 7 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
AN 1999:29147143 BIOTECHNO
TI Characterization of SYBR gold nucleic acid gel stain: A dye optimized for use with 300-nm ultraviolet transilluminators
AU Tuma R.S.; Beaudet M.P.; Jin X.; Jones L.J.; Cheung C.-Y.; Yue S.; Singer V.L.
CS V.L. Singer, Molecular Probes, Incorporated, 4849 Pitchford Avenue, Eugene, OR 97402, United States.
E-mail: vicki@probes.com
SO Analytical Biochemistry, (15 MAR 1999), 268/2 (278-288), 27 reference(s)
CODEN: ANBCA2 ISSN: 0003-2697
DT Journal; Article
CY United States
LA English
SL English
AB The highest sensitivity nucleic acid gel stains developed to date are optimally excited using short-wavelength ultraviolet or visible light. This is a disadvantage for laboratories equipped only with 306- or 312-nm UV transilluminators. We have developed a new unsymmetrical **cyanine dye** that overcomes this problem. This new dye, SYBR Gold nucleic acid gel stain, has two fluorescence excitation maxima when bound to **DNA**, one centered at .sim.300 nm and one at .sim.495 nm. We found that when used with 300-nm transillumination and Polaroid black-and-white photography, SYBR Gold stain is more sensitive than ethidium bromide, SYBR Green I stain, and SYBR Green II stain for detecting **double-stranded DNA**, single-stranded **DNA**, and **RNA**. SYBR Gold stain's superior sensitivity is due to the high fluorescence quantum yield of the dye-nucleic acid complexes (.sim.0.7), the dye's large fluorescence enhancement upon **binding** to nucleic acids (.sim.1000-fold), and its capacity to more fully penetrate gels than do the SYBR Green gel stains. We found that SYBR Gold stain is as sensitive as silver staining for detecting **DNA**--with a single-step staining procedure. Finally, we found that staining nucleic acids with SYBR Gold stain does not interfere with subsequent molecular biology protocols.

L9 ANSWER 6 OF 7 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
AN 1997:27248997 BIOTECHNO
TI Measurement of nucleic acid concentrations using the DyNA Quant(TM) and the GeneQuant(TM)
AU Teare J.M.; Islam R.; Flanagan R.; Gallagher S.; Davies M.G.; Grabau C.
CS J.M. Teare, Hoefer Pharmacia Biotech, 654 Minnesota Street, San Francisco, CA 94107, United States.
E-mail: john.teare@ussfo.pharmacia.se
SO BioTechniques, (1997), 22/6 (1170-1174), 14 reference(s)
CODEN: BTNQDO ISSN: 0736-6205
DT Journal; Article
CY United States
LA English
SL English
AB Molecular biology is now a routine tool in almost all biological research fields. With the exponential growth in the number of molecular biological techniques. There is a recognizable need for sensitive, accurate and precise quantitation of nucleic acids. We present here two complementary instruments designed for the quantitation of nucleic acids, the GeneQuant(TM) II and the DyNA Quant(TM) 200 Fluorometer. The GeneQuant II can rapidly determine the UV absorbance of a solution and display the calculated **DNA**, **RNA** or protein concentration. In addition, the GeneQuant can display calculated melting temperatures for a given **DNA** oligonucleotide base sequence, a useful feature for primer design. The DyNA Quant 200 quantitates **DNA** on the basis of the **fluorescent** Hoechst 33258 **dye/double -stranded** (ds)**DNA** assay. Upon **binding** to dsDNA, the spectral properties of the dye change such that it becomes highly fluorescent at 460 nm when excited at 365 nm. The assay has proven to be a specific and sensitive alternative method for **DNA** quantitation, particularly for unpurified **DNA** samples.

Together, the GeneQuant II and the DyNA Quant 200 are a cost-effective and convenient solution to the routine protein and nucleic acid quantification needs of the molecular biologist.

L12 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:97867 CAPLUS
DN 130:322555
TI Interaction of cyanine dyes with nucleic acids. 3. The use of new cyanine dyes Cyan 13 and Cyan 40 for detection of nucleic acids in agarose gel
AU Yarmoluk, S. M.; Dubey, Igor Ya.
CS Inst. Mol. Biol. Genet., Nat. Acad. Sci. Ukr., Kiev, 252143, Ukraine
SO Biopolimery i Kletka (1997), 13(5), 419-421
CODEN: BIKLEK; ISSN: 0233-7657
PB Institut Molekulyarnoi Biologii i Genetiki NAN Ukrainy
DT Journal
LA English
AB Detection of **double-stranded** DNA (dsDNA) and single-stranded DNA (ssDNA) and **RNA** with two new **cyanine dyes** Cyan 13 and Cyan 40 is reported. Cyan 13 and Cyan 40 bind to nucleic acids to form a stable fluorescent complexes and can ber used for the detection of DNA and RNA samples separated by gel electrophoresis. Sensitivity of detection is comparable to that for ethidium bromide (EtBr), a common nucleic acid staining dye.
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 4 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
AN 2002:34214365 BIOTECHNO
TI Stains, labels and detection strategies for nucleic acids assays
AU Kricka L.J.
CS Dr. L.J. Kricka, Department of Pathology, University of Pennsylvania, Philadelphia, PA 19104, United States.
E-mail: kricka@mail.med.upenn.edu
SO Annals of Clinical Biochemistry, (2002), 39/2 (114-129), 165 reference(s)
CODEN: ACBOBU ISSN: 0004-5632
DT Journal; General Review
CY United Kingdom
LA English
SL English
AB Selected developments and trends in stains, labels and strategies for detecting and measuring nucleic acids (DNA, **RNA**) and related molecules [e.g. oligo(deoxy)-nucleotides, nucleic acid fragments and polymerase chain reaction products] are surveyed based on the literature in the final decade of the 20th century (1991-2000). During this period, important families of **cyanine dyes** were developed for sensitive detection of **double-stranded** DNA, single-stranded DNA, and oligo(deoxy)nucleotides in gels and in solution, and families of energy transfer primers were produced for DNA sequencing applications. The continuing quest for improved labels for hybridization assays has produced a series of candidate labels including genes encoding enzymes, microparticles (e.g. quantum dots, nanocrystals, phosphors), and new examples of the fluorophore (e.g. **cyanine dyes**) and enzyme class of labels (e.g. firefly luciferase mutants). Label detection technologies for use in northern and southern blotting assays have focused on luminescent methods, particularly enhanced chemiluminescence for peroxidase labels and adamantyl 1,2-dioxetanes for alkaline phosphatase labels. Sets of labels have been selected to meet the demands of multicolour assays (e.g. four-colour sequencing and single nucleotide primer extension assays). Non-separation assay formats have emerged based on fluorescence polarization, fluorescence energy transfer (TaqMan.TM., molecular beacons) and channelling principles. Microanalytical devices (microchips), high-throughput simultaneous test arrays (microarrays, gene chips), capillary electrophoretic analysis and dipstick devices have presented new challenges and requirements for nucleic acid detection, and fluorescent methods currently dominate in many of these applications.